Avoiding Over-Reliance on Technology

EWS 2004

Subject Area Topical Issues

Report Documentation Page		*Form Approved* *OMB No. 0704-0188*

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE **2004**	2. REPORT TYPE		3. DATES COVERED **00-00-2004 to 00-00-2004**
4. TITLE AND SUBTITLE **Avoiding Over-Reliance on Technology**			5a. CONTRACT NUMBER
			5b. GRANT NUMBER
			5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)			5d. PROJECT NUMBER
			5e. TASK NUMBER
			5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Marine Corps War College,Marine Corps University,Marine Corps Combat Development Command,Quantico,VA,22134-5067**			8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)
12. DISTRIBUTION/AVAILABILITY STATEMENT **Approved for public release; distribution unlimited**			
13. SUPPLEMENTARY NOTES			
14. ABSTRACT			
15. SUBJECT TERMS			

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**9**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

Today's warrior plans battles on computers and uses state of the art weapon systems to admonish any threat the United States may encounter. American fighting men and women oppose an ill-prepared enemy who sleeps on dirt floors and possesses little or no means to gain the advantage against the U.S. superpower. Victory in war for the U.S. military has come swiftly and with precision, and has been accompanied by low loss of life over the last decade and into the first few years of the new century. Downsizing the armed forces and employing technologically advanced capabilities continue as the strategic formula for success in modern armed conflict. Leaders at all levels should appreciate the war-winning advantage technologically advanced weapon systems give, but must guard against reliance upon them for success in war.

Over the last ten years of the twentieth century, it became obvious that technologically advanced war fighting methods coupled with continuous downsizing of forces served as a winning combination against superior-sized forces that lacked modern weaponry. In the first Gulf War against the Iraqi army, the much smaller U.S. force, with weapon technology on its side, fought the then fourth largest army in the world. U.S. forces totaled 1,985,000, accounting for the smallest number since

1950.[1] Military leadership determined the war could be waged and won with fewer service men and women.

Outnumbered four to one, the U.S. forces committed to Operation Desert Storm, attacked. However, the U.S. outclassed the Iraqi's with a modern downsized air force that, during the first night of the air campaign, planned to drop more bombs on Iraq than all bombs that were dropped on North Vietnam.[2] Iraqi forces were pummeled relentlessly by the most modern and technologically advanced air force ever known. So effective was the air campaign that in less than 100 hours of the ground war that followed, coalition ground forces defeated the remaining enemy forces of what was a 500,000 man Iraqi army constituting 42 divisions.[3]

It is undeniable that the punishing air war conducted by the U.S. Air Force allowed the outnumbered coalition ground forces to route the remaining enemy in only three days. A much smaller force achieved victory in a much shorter time.

To focus perspective even more, at the end of 1945, heavy U.S. Air Force bomber aircraft totaled 3,988. At the end of the year 2000, that number totaled 181.[4] This dramatic downsizing of the Air Force bomber fleet compensated for its numerical inferiority with lethality and range in both wars against Iraq.

[1] Bart Brasher, Implosion: Downsizing the U.S. Military (London, Greenwood Press, 2000), 63
[2] Neil Creighton, Jr et al., *The Eyes of Orion* (The Kent State University Press, 1999), 145.
[3] Creighton, 160.
[4] James F. Dunnigan, *Digital Soldiers* (New York: St. Martin's Press, 1996), 137.

More importantly, U.S. air power demonstrated that it could be the dominating force in war.

Employing its own superior weapons, the U.S. Navy initiated the first night of the first Gulf War with more state of the art weaponry than Saddam Hussein's forces could muster throughout their entire defense during the war. Official army records indicate that, "... OPLAN Desert Storm was put into effect at 0152 hours on 17 January with the launching of one hundred Tomahawk cruise missiles from U.S. Navy ships in the Gulf."[5] The Navy launched one hundred state of the art cruise missiles, with an associated cost of almost one million dollars each, just to start the fight. Tomahawk missiles fired on the first night alone totaled more than all the missiles fired by the enemy throughout the conflict. Sadam Hussein's army fired a total of only 72 Scud missiles during the entire allied air campaign.[6]

Evidence indicates that the United States is spending more and more money on high-tech weaponry. In the early 1990's, smart bombs were used almost to the point of depletion of their inventory in the first Gulf War.[7] Just over 9,000 guided munitions were used during the lengthy air campaign over Iraq. This represented approximately 5% of all bombs dropped during

---

[5] Creighton, 145.
[6] Dunnigan, 160.
[7] Dunnigan, 134.

the campaign.[8] It was, at the time, a modern marvel in the employment of weapon systems.

The second Gulf War reveals dramatically different statistics. In just the few short weeks of Operation Iraqi Freedom (OIF), over 19,000 guided munitions were employed, accounting for 68% of all bombs dropped.[9] Approximately one third of the previously mentioned 181 heavy bombers were used by the Air Force in OIF.[10] This shows that over twice as many smart bombs were used in only a few weeks' time during OIF while utilizing fewer aircraft and airmen. Furthermore, unlike Desert Storm's effect on remaining supplies of smart bombs, research does not indicate a shortage of guided munitions remain in today's arsenal.

Militaries of the world have always been intertwined with scientists and other innovators who contributed to their nations' military advancements. The incorporation of modern weaponry systems began in 1940, according to authors of The Future of War, George and Meredith Friedman. They propose that the advent of radar and its use by Britain's Royal Air Force (RAF) contributed more to the successes against the German air force than did the actions of the RAF pilots themselves. The authors contend it was then that creators of technology became

---

[8] T. Michael Moseley, Lt Gen, USAF, *Operation Iraqi Freedom - By the Numbers* (Assessment and Analysis Division), 11.
[9] Moseley, 11.
[10] Moseley, 6-7.

4

as important as the warrior in winning wars. After all, German

pilots were just as brave as English pilots.[11]

Modern advancements have become central to success. The

authors emphasize this, stating, "Modern warfare has always

borrowed from the technology of the modern scientist...but such

enterprises were not seen as central to military success."[12]

Radar, like all other technical marvels incorporated into

warfare, was a truly sophisticated innovation that gave extreme

advantage to its initial sole possessor. For the British it

contributed to a turning point in the war against Germany.

The point to consider in modern warfare, however, is that

significant leaps in modern technological advancements result in

war-winning capabilities when applied to weaponry, but are not a

substitute for personnel strength in the military. Cruise

missiles, stealth bombers, and night vision goggles are examples

of modern innovation that currently produce total domination in

warfare, not just an edge on the battlefield. If both

belligerents in conflict gain equivalent technology, strength in

numbers becomes the least common denominator.

Guarding the advantage of technology while continuing to

rely on the benefits it provides is a challenge when paired with

constant downsizing of the military. Leaders must realize the

---

[11] George and Meredith Friedman, *Future of Warfare*, (New York: St Martin's Griffin, 1996), 111-112.
[12] George and Meredith Friedman, 43-44.

potential for the advantage to be lost, and subsequently will have to plan how to fight with numerically inferior forces that will suddenly lose their edge. The advantage currently held will be relatively short-lived in the opinion of General Van Riper, USMC (Ret), who, during his presentation to the students of AY 2003-2004 Expeditionary Warfare School, referred to close combat as a blue-collar business and remarked that fighting forces are basically amateurs in combat.[13] With the awesome effects of weapon systems compromised, countered, or duplicated, the blue collar amateur will be pitted against a much more formidable enemy.

Now that the U.S. is reliant on its weapons systems as it continues to downsize its military end strength, its military leaders might become falsely secure in their future ability to defeat the next enemy. American military strategy of tomorrow must possess the foresight to plan for equal footing with the anticipated asymmetric enemy threat. If leaders do not realize the value of technology, they might rest on what the Friedman's explain as, "...the perception of technical infallibility to create a sense of their own superiority and even invincibility."[14]

---

[13] LtGen, USMC (Ret), from comments made to Expeditionary Warfare School Class AY04
[14] George and Meredith Friedman, 24.

It is arguable that many officers have already reached that mindset of infallibility. With Sadam Hussein's dictatorship toppled in the short three weeks of OIF, that point of over-inflated self worth through technical infallibility broached itself through the attitudes of many young officers.

Pundits support this type of concern and warn that the advantage the U.S. has today is a fragile one to be seriously guarded. General R.H. Scales, USA (Ret) explains in his book, Future Warfare, "The microchip is a neutral ally," and, "It will alter the nature of warfare and potentially do more for our opponents than it will do for us. A thinking opponent will quickly realize that our intensive reliance on information age technologies becomes a weakness that can become an asymmetric target."[15] This statement should hasten concern in the minds of those whose job it is to protect the advantage. The statement must also connote thoughts of humility to those fortunate ones who employ technology to their advantage.

If the edge in technology is lost to an unforeseen threat military leaders must quickly set forth an effective plan, which was thought out in advance. It is alarming to look ahead to the future when third world countries, rogue states, and other possible combatants gain the same deadly technology. When terrorist elements or small guerrilla movements that would have

---

[15] MG Robert H. Scales, Jr, *Future of Warfare* (Pennsylvania, U.S. Army War College, 1999), 120.

7

otherwise been insignificant possess the same lethality, technological equality will reduce American fighting forces to a blue-collar amateur in for a tough fight with a capable foe.

Fewer average Americans in a continuously downsizing force operating hi-tech gear will not succeed as a means of winning in the very near future. General Scales estimates that as soon as 2010, the advantage now provided by the U.S. dominance in information and systems technology may be lost and that the result will be, "...an Army that only will die smarter"[16] if something is not done to compensate for or protect the loss of crucial information pertaining to advanced systems. No statement could be more applicable to the point of this paper.

Consider the threat of losing the only advantage, advanced weaponry systems, to a determined enemy, or several enemies, by the year 2010. This timeline is not far-fetched. The only solution is to prepare for losing the advantage and to maintain adequate strength in the number of prepared, trained, and ready conventional forces.

---

[16] Scales, 86.